days prior to Day 1, anticipation of need for major surgical procedure during the course of the study. 14. Minor surgical procedures, fine needle aspirations or core biopsies within 7 days prior to Day 1. Bone marrow aspiration and/or biopsy are allowed. 15. Serious, non-healing wound, ulcer, or bone fracture. 16. Treatment with Coumadin. Patients who recently received Coumadin must be off Coumadin for at least 7 days prior to start of the study. 17. Any chemotherapy (e.g., bendamustine, cyclophosphamide, pentostatin, or fludarabine), immunotherapy (e.g., alemtuzumab, or ofatumumab), bone marrow transplant, experimental therapy, or radiotherapy is prohibited during therapy on this study. 18. Use of medications known to prolong QTc interval or that may be associated with Torsades de Pointes (refer to Appendix F) are prohibited within 7 days of starting study drug and during study-drug treatment.

The examples and embodiments described herein are illustrative and various modifications or changes suggested to persons skilled in the art are to be included within this disclosure. As will be appreciated by those skilled in the art, the specific components listed in the above examples may be replaced with other functionally equivalent components, e.g., diluents, binders, lubricants, fillers, and the like.

What is claimed is:

1. A crystalline Form A of 1-((R)-3-(4-amino-3-(4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidin-1-yl)prop-2-en-1-one that has (a) an X-Ray powder diffraction (XRPD) pattern as shown in FIG. **1** and optionally at least one of the following properties:

(a) an X-Ray powder diffraction (XRPD) pattern as shown in FIG. **1**;

(b) an X-ray powder diffraction (XRPD) pattern with characteristic peaks at 5.7±0.1° 2-Theta, 13.6±0.1° 2-Theta, 16.1±0.1° 2-Theta, 18.9±0.1° 2-Theta, 21.3±0.1° 2-Theta, and 21.6±0.1° 2-Theta;

(c) the same X-ray powder diffraction (XRPD) pattern post storage at 40° C. and 75% RH for at least a week;

(d) the same X-ray powder diffraction (XRPD) pattern post storage at 25° C. and 97% RH for at least a week;

(e) Infrared (IR) spectrum as the one set forth in FIG. **2**;

(f) Infrared (IR) spectrum weak peaks at about 1584 cm^{-1}, about 1240 cm^{-1}, about 1147 cm^{-1}, about 1134 cm^{-1}, about 1099 cm^{-1}, and about 1067 cm^{-1};

(g) a DSC thermogram as the one set forth in FIG. **3**;

(h) a thermo-gravimetric analysis (TGA) thermogram as the one set forth in FIG. **4**;

(i) a DSC thermogram with an endotherm having an onset at about 154° C. and a peak at about 157° C. and an exotherm at about 159° C.;

(j) non-hygroscopicity;

(k) an observed aqueous solubility of about 0.013 mg/mL at about pH 8;

or

(l) combinations thereof.

2. The crystalline form of claim **1**, wherein the crystalline form has the same X-ray powder diffraction (XRPD) pattern post storage at 40° C. and 75% RH for at least a week.

3. The crystalline form of claim **1**, wherein the crystalline form has the same X-ray powder diffraction (XRPD) pattern post storage at 25° C. and 97% RH for at least a week.

4. The crystalline form of claim **1**, wherein the crystalline form has an Infrared (IR) spectrum as the one set forth in FIG. **2**.

5. The crystalline form of claim **1**, wherein the crystalline form has an Infrared (IR) spectrum weak peaks at about 1584 cm^{-1}, about 1240 cm^{-1}, about 1147 cm^{-1}, about 1134 cm^{-1}, about 1099 cm^{-1}, and about 1067 cm^{-1}.

6. The crystalline form of claim **1**, wherein the crystalline form has a melting temperature of about 155-156° C.

7. The crystalline form of claim **1**, wherein the crystalline form has a DSC thermogram as the one set forth in FIG. **3**.

8. The crystalline form of claim **1**, wherein the crystalline form has a thermo-gravimetric analysis (TGA) thermogram as the one set forth in FIG. **4**.

9. The crystalline form of claim **1**, wherein the crystalline form has a DSC thermogram with an endotherm having an onset at about 154° C. and a peak at about 157° C. and an exotherm at about 159° C.

10. The crystalline form of claim **1**, wherein the crystalline form is non-hygroscopic.

11. The crystalline form of claim **1**, wherein the crystalline form has an observed aqueous solubility of about 0.013 mg/mL at about pH 8.

12. The crystalline form of claim **1**, wherein the crystalline form that is characterized as having properties (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), and (k).

13. The crystalline form of claim **1**, wherein the crystalline form was obtained from ethyl acetate, isopropyl acetate, tetrahydrofuran, methyl isobutyl ketone (MIBK), methyl ethyl ketone (MEK), nitromethane, methanol, ethanol, acetonitrile, dioxane, methyl tert-butyl ether (MTBE), anisole, acetone, heptanes, a methanol/water or an acetone/heptane mixture.

14. The crystalline form of claim **1**, wherein the crystalline form is unsolvated.

15. The crystalline form of claim **1**, wherein the crystalline form is anhydrous.

16. A pharmaceutical formulation for oral administration comprising:

(a) 140 mgs of crystalline Form A of 1-((R)-3-(4-amino-3-(4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidin-1-yl)prop-2-en-1-one that has an X-Ray powder diffraction (XRPD) pattern as shown in FIG. **1**;

(b) 45.9 wt % of microcrystalline cellulose;

(c) 7.0 wt % of croscarmellose sodium;

(d) 4.2 wt % of sodium lauryl sulfate; and

(e) 0.5 wt % of magnesium stearate.

17. A crystalline Form A of 1-((R)-3-(4-amino-3-(4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidin-1-yl)prop-2-en-1-one that has an X-ray powder diffraction (XRPD) pattern with characteristic peaks at 5.7±0.1 ° 2-Theta, 13.6±0.1° 2-Theta, 16.1±0.1° 2-Theta, 18.9±0.1 ° 2-Theta, 21.3±0.1° 2-Theta, and 21.6±0.1° 2-Theta; and at least one of the following properties:

(i) an X-Ray powder diffraction (XRPD) pattern as shown in FIG. **1**;

(ii) the same X-ray powder diffraction (XRPD) pattern post storage at 40° C. and 75% RH for at least a week;

(iii) the same X-ray powder diffraction (XRPD) pattern post storage at 25° C. and 97% RH for at least a week;

(iv) Infrared (IR) spectrum as the one set forth in FIG. **2**;

(v) Infrared (IR) spectrum weak peaks at about 1584 cm^{-1}, about 1240 cm^{-1}, about 1147 cm^{-1}, about 1134 cm^{-1}, about 1099 cm^{-1}, and about 1067 cm^{-1};

(vi) a DSC thermogram as the one set forth in FIG. **3**;

(vii) a thermo-gravimetric analysis (TGA) thermogram as the one set forth in FIG. **4**;

(viii) a DSC thermogram with an endotherm having an onset at about 154° C. and a peak at about 157° C. and an exotherm at about 159° C.;

(ix) non-hygroscopicity;

(x) an observed aqueous solubility of about 0.013 mg/mL at about pH 8; or

(xi) combinations thereof.